WHAT IS CLAIMED IS:

1. A method of designing a phase shift mask, the method comprising:

identifying edges of a first phase region of a phase shifting mask, the first phase region being located proximate a critical poly region and the identified edges not being edges of the first phase region adjacent to the critical poly region;

expanding the identified edges to define a narrow line along the edges of the first phase region; and

forming a phase region boundary in the narrow line along the edges of the first phase region.

2. The method of claim 1, further comprising:

identifying edges of a phase 180 region of a phase shifting mask, the phase 180 region being located proximate a critical poly region and the identified edges not being edges of the phase 180 region adjacent to the critical poly region;

expanding the identified edges to define a narrow line along the edges of the phase 180 region; and

forming chrome in the narrow line to form a chrome boundary along the edges of the phase 180 region.

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3. The method of claim 1, further comprising:

assigning phase polarities to phase regions;

defining edges of the assigned phase regions;

establishing a boundary around the added edges; and

assigning area outside of the established boundary to have phase zero.

4. The method of claim 3, wherein the phase areas are assigned a phase angle of either 0 or 180.

5. The method of claim 4, further comprising generating a trim mask to remove undesired patterns between phase 0 and phase 180 regions.

6. The method of claim 1, wherein the narrow line has a width of a minimum gate width dimension.

7. The method of claim 1, further comprising defining a boundary around edges of a second phase region, wherein the edges are not adjacent the critical poly region.

8. The method of claim 7, wherein defining the boundary includes defining a boundary around edges having phase 0.

9. The method of claim 1, further comprising defining break locations where phase transitions are most likely to occur.

10. The method of claim 9, wherein the break locations have a width that permits patterning and inspection.

11. The method of claim 1, further comprising generating a trim mask to remove undesired patterns between first and second phase regions.

12. A method of generating phase shifting patterns to improve the patterning of gates and other layers needing sub-nominal dimensions, the method comprising:

defining critical gate areas;

creating phase areas on either side of the critical gate areas;

assigning opposite phase polarities to the phase areas on either side of the critical gate areas;

enhancing phase areas with assigned phase polarities;

defining break regions where phase transitions are likely to occur;

generating polygons to define other edges and excluding the defined break regions; and

constructing a boundary region outside of phase 0 regions to form a phase shift border.

13. The method of claim 12, further comprising:

correcting design rule violations; and

applying optical proximity and process corrections to phase regions to allow proper pattern generation.

14. The method of claim 12, further comprising generating a trim mask to remove undesired patterns between phase 0 and phase 180 regions outside of a desired pattern.

15. The method of claim 14, wherein the generating is done by oversizing boundary and break regions.

16. The method of claim 14, wherein the chrome border has a width of a distance between phase 0 and phase 180 regions.

SUB A3 17. A method of enhancing clear field phase shift masks with a chrome border around outside edges of phase 0 and phase 180 regions, the method comprising:

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assigning phase polarities to phase areas, the phase areas including first phase areas and second phase areas;

defining edges of the assigned phase areas;

establishing a first boundary around the added edges of the first phase area;

forming a chrome border in the first boundary around the first phase area;

establishing a second boundary around the added edges of the second phase area; and

forming a phase shift border in the second boundary around the second phase area.

18. The method of claim 17, wherein adding edges to the assigned phase areas includes defining break regions where phase transitions occur and generating polygons including edges but excluding break regions, wherein the polygons are merged with the assigned phase areas.

19. The method of claim 17, further comprising generating a trim mask to remove undesired patterns between the first and second phase areas.

20. The method of claim 19, wherein the trim mask does not cover all or any of the phase shift border in the second boundary around the second phase area.

21. The method of claim 19, wherein the generating is done by oversizing the boundary and break regions.

22. A mask configured for use in an integrated circuit manufacturing process, the mask comprising:

a critical poly section defined by first edges of a phase zero region and first edges of a phase 180 region;

a first chrome boundary region located outside second edges of the phase 180 region, the second edges of the phase 180 region being

different than the first edges of the phase 180 r gion, wher in the chrome boundary region includes an opaque material; and

a second chrome boundary region around second edges of the phase 0 region, the second edges of the phase 0 region being different than the first edges of the phase 0 region.

23. The mask of claim 22, further comprising a region outside of defined areas having a phase of zero.

SUB A4 24. The mask of claim ~~22~~ A, wherein the second boundary region includes an opaque material.